



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,774	07/17/2003	John R. Tuttle	RM572a	1683
23996	7590	10/06/2005	EXAMINER	
RICK MARTIN PATENT LAW OFFICES OF RICK MARTIN, PC 416 COFFMAN STREET LONGMONT, CO 80501			PHAM, LAM P	
			ART UNIT	PAPER NUMBER
			2636	

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. ✓ 10/621,774	Applicant(s) TUTTLE, JOHN R.	
	Examiner Lam P. Pham	Art Unit 2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 is/are allowed.
- 6) ☒ Claim(s) 7-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 16 objected to because of the following informalities: the word "form" in line 4 should change to "from". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claim 17 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 17 recites the limitation "the relative tire rim temperatures" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7-12 rejected under 35 U.S.C. 103(a) as being unpatentable over **Nigon** et al. (US 6549125).

Regards claim 7, Nigon disclose a tire rim temperature sensor comprising:

a housing (20) mountable to a surface of a tire rim (10);
a pressure or temperature sensor (12) incorporated into the housing; and
a transmitter (RF) to send a pressure or a temperature signal remotely as seen in
Figures 1-8; col. 2, lines 56-67; col. 3, lines 1-67; col. 4, lines 1-67; col. 5, lines 1-30.

However, Nigon fail to disclose a rim temperature sensor for sensing a
temperature of the rim.

It has been well known in the art to measure a temperature or a pressure of a tire
or tire related conditions by mounting a sensor into a wheel rim. An increase or
decrease in temperature of a tire rim directly affect an air pressure or temperature of a
tire because the air inside a tire is also contacted the tire rim. Thus, it would have been
obvious to one of ordinary skilled in the art to incorporate a temperature sensor into the
housing for measuring a rim temperature at locations where the rim temperature affect
the tire conditions.

Regards claim 8, Nigon disclose a weld attachment to a rim as seen in col. 3,
lines 1-24.

Regards claim 9, Nigon fail to disclose a bond attachment to a rim. However, it
would have been obvious to one of ordinary skilled in the art to realize that a bond
attachment is an alternative to welding, gluing, strapping. Thus, it would have been
obvious to one of ordinary skilled in the art to bond the housing to the rim.

Regards claim 10, Nigon disclose an attachment to an inside a tire surface of
the rim as seen in Figure 2.

Art Unit: 2636

Regards claim 11, Nigon fail to disclose further comprising an air temperature sensor. Since, Nigon disclose the pressure sensor as one example of tire condition sensors, it would have been obvious to one of ordinary skilled in the art to incorporate an air temperature sensor for measuring a temperature of the tire as it has been well known in the art.

Regards claim 12, Nigon disclose comprising a tire pressure sensor as seen in col. 2, lines 56-62.

7. Claims 13-19 rejected under 35 U.S.C. 103(a) as being unpatentable over **Schurmann** (US 5513525).

Regards claim 13, Schurmann discloses a tire rim temperature sensor comprising:

- a housing (24) suited to fit into a hole (20) in a tire rim (10);
- a temperature sensor (42) associated with housing; and
- transmitter (28, 32) associated with the housing as seen in Figure 1; col. 1, lines 63-67; col. 2, lines 1-1-67; col. 3, lines 1-67 and col. 4, lines 1-26.

However, Schurmann fail to disclose a rim temperature sensor for sensing a temperature of the rim.

It has been well known in the art to measure a temperature or a pressure of a tire or tire related conditions by mounting a sensor into a wheel rim. An increase or decrease in temperature of a tire rim directly affect an air pressure or temperature of a tire because the air inside a tire is also contacted the tire rim. Thus, it would have been obvious to one of ordinary skilled in the art to incorporate a temperature sensor into the

Art Unit: 2636

housing for measuring a rim temperature at locations where the rim temperature affects the tire conditions.

Regards claim 14, Schurmann disclose further comprising an air temperature sensor (42) as seen in Figure 1; col. 2, lines 12-16.

Regards claim 15, Schurmann discloses further comprising tire pressure sensor (40) as seen in Figure 1; col. 2, lines 12-16.

Regards claim 16, Schurmann disclose a method to detect a high temperature tire condition, comprising the steps of:

affixing a temperature sensor to a tire rim;

receiving a temperature signal from the sensor; and

processing the temperature signal to determine an alarm condition as seen in Figure 1; col. 1, lines 63-67; col. 2, lines 1-1-67; col. 3, lines 1-67 and col. 4, lines 1-26.

However, Schurmann fail to disclose a rim temperature sensor for sensing a temperature of the rim.

It has been well known in the art to measure a temperature or a pressure of a tire or tire related conditions by mounting a sensor into a wheel rim. An increase or decrease in temperature of a tire rim directly affect an air pressure or temperature of a tire because the air inside a tire is also contacted the tire rim. Thus, it would have been obvious to one of ordinary skilled in the art to incorporate a temperature sensor into the housing for measuring a rim temperature at locations where the rim temperature affects the tire conditions.

Art Unit: 2636

Regards claim 17, since there are four tires in a vehicle, it would have been obvious to one of ordinary skilled in the art to recognize that Schurmann further discloses comprising the steps of receiving a plurality of temperature signals from a plurality of tire rims, each tire rim having a rim temperature sensor; and comparing the tire rim temperatures to determine an alarm condition.

Regards claim 18, Schurmann fail to disclose further comprising the step of comparing the temperature signal to a stored constant to determine the alarm condition.

However, it has been well known in the art to compare a tire temperature or pressure to a threshold value for setting an alarm condition including overheated or overpressure and vice versa.

Thus, it would have been obvious to one of ordinary skilled in the art to further include the step of comparing the temperature signal to a threshold or constant to determine an alarm condition.

Regards claim 19, Schurmann fails to disclose further comprising the step of comparing the temperature signal to a historic log to determine the alarm condition.

However, a temperature or pressure historic log is also well known in the art of tire monitoring for setting an alarm condition. Thus, it would have been obvious to one of ordinary skilled in the art to include the step of comparing the temperature signal to a historic log to determine the alarm condition.

Regards claim 20, Schurmann disclose a tire safety alarm system comprising:
a temperature sensor (42) on each tire rim of a vehicle;

Art Unit: 2636

said temperature sensor having a transmitter (28, 32) to send a temperature signal to an onboard computer;

said onboard computer having alarm logic including a comparative tire temperature algorithm; and

wherein any tire that overheats triggers an alarm as seen in Figure 1; col. 1, lines 63-67; col. 2, lines 1-1-67; col. 3, lines 1-67 and col. 4, lines 1-26.

However, Schurmann fail to disclose a rim temperature sensor for sensing a temperature of the rim.

It has been well known in the art to measure a temperature or a pressure of a tire or tire related conditions by mounting a sensor into a wheel rim. An increase or decrease in temperature of a tire rim directly affect an air pressure or temperature of a tire because the air inside a tire is also contacted the tire rim. Thus, it would have been obvious to one of ordinary skilled in the art to incorporate a temperature sensor into the housing for measuring a rim temperature at locations where the rim temperature affects the tire conditions.

Allowable Subject Matter

8. Claims 1-6 allowed.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schiavone (US 4235184) disclose a strapping seal and counter weight device.

Hosaka et al. (US 3881170) disclose a vehicle tire abnormality indicator.

Green (US 5452608) disclose a pressure and temperature monitor.

Phelan et al. (US 6255940) disclose an apparatus for monitoring a tire condition.


Fuller et al. (US 6292095) disclose a tire temperature and pressure monitor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lam P. Pham whose telephone number is 571-272-2977. The examiner can normally be reached on 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A. Hofsass can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lam Pham
September 27, 2005.


JEFFERY HOFSSA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600